CLAIMS:

1. A power saw safety system comprising:

    a. a motor configured to drive a cutting blade;

    b. a protective barrier between the cutting blade and a user;

    c. a detection system coupled to the protective barrier to detect a close proximity between the user and the protective barrier and, upon detection, outputting a detecting signal; and

    d. a control system receiving the detecting signal.

2. The power saw safety system of claim 1 wherein the protective barrier is a blade guard.

3. The power saw safety system of claim 1 wherein the protective barrier is a throat plate.

4. The power saw safety system of claim 1 wherein the detection system detects a capacitance of the user.

5. The power saw safety system of claim 1 wherein the detection system comprises a digital capacitive circuit that senses the capacitance of the user.

6. The power saw safety system of claim 5 wherein the digital capacitive circuit is configured to sense a capacitance in the range from about 1 picofarad to about 500 picofarad.

7. The power saw safety system of claim 5 wherein the digital capacitive circuit is configured to sense a capacitance in the range from about 50 picofarad to about 200 picofarad.

8. The power saw safety system of claim 5 wherein the digital capacitive circuit is configured to sense a capacitance of about 100 picofarad.

9. The power saw safety system of claim 5 wherein the digital capacitance circuit includes a capacitor selected from the group consisting of ceramic, film, power film, aluminum, and tantalum.

10. The power safety system of claim 1 wherein the protective barrier functions as a capacitive probe to search for a selectable capacitance level.

11. The power saw safety system of claim 1 wherein the control system is adapted to stop motion of the cutting blade upon receiving the detecting signal.

12. The power saw safety system of claim 1 wherein the control system includes a braking resistor operative with the motor to stop motion of the cutting blade.

13. The power saw safety system of claim 12 wherein the control system is adapted to insert the braking resistor in series with an armature coil of the motor, thereby stopping motion of the cutting blade.

14. The power saw safety system of claim 1 wherein the control system includes an amplifier circuit to reverse current in the motor, thereby stopping motion of the cutting blade.

15. The power saw safety system of claim 1 wherein the control system is adapted to disable the cutting blade when the cutting blade is in an active mode.

16. The power saw safety system of claim 1 wherein the control system is adapted to provide a warning signal upon receiving the detecting signal.

17. The power saw safety system of claim 16 wherein the warning signal is a light.

18. The power saw safety system of claim 16 wherein the warning signal is an audible sound.

19. The power saw safety system of claim 1 wherein the control system is adapted to disconnect electrical power to the motor.

20. The power saw safety system of claim 1 wherein the control system is adapted to move the cutting blade away from a cutting area.

21. The power saw safety system of claim 1 wherein the control system is selectively adapted to provide a warning signal, to stop motion of the cutting blade, or move the cutting blade away from a cutting area, upon receiving the detecting signal.

22. The power saw safety system of claim 21 wherein the control system provides a warning signal and stops motion of the cutting blade.

23. The power saw safety system of claim 22 wherein the control system simultaneously provides a warning signal and stops motion of the cutting blade.

24. The power saw safety system of claim 1 wherein upon receiving the detecting signal, the control system is selectively adapted to provide at least two simultaneous actions selected from the group consisting of providing a warning signal, stopping motion of the cutting blade, and moving the cutting blade away from a cutting area.

25. A method of minimizing the risk of injury to a user of a power saw, where the power saw includes a moving cutting blade, the method comprising:

a. providing a protective barrier between the cutting blade and the user;

b. detecting a close proximity between the user and the protective barrier; and

c. selectively providing a warning signal or stopping motion of the saw blade, upon detecting the close proximity.

26. A method of minimizing the risk of injury to a user of a cutting tool, where the cutting tool includes a moving cutting blade, the method comprising:

a. detecting a close proximity between the user and a portion of the cutting tool not including the cutting blade; and

c. selectively providing a warning signal or stopping motion of the saw blade, upon detecting the close proximity.

27. A machine for cutting a workpiece comprising:

a. a support structure having a cutting area;

b. a motor to drive a cutting tool having a blade, wherein the cutting tool is associated with the support structure and adapted to move at least partially into the cutting area to cut the workpiece;

c. a detection system to detect close proximity between a user and a selected portion of the cutting tool that does not include the blade; and,

d. a control system adapted to stop motion of the cutting tool upon detection of close proximity by the detection system.

28. The machine of claim 27, where the motor rotates the cutting tool as the cutting tool moves at least partially into the cutting zone, and where the control system is adapted to stop the rotation of the cutting tool.

29. The machine of claim 28 where the control system includes a first brake mechanism adapted to stop the movement of the cutting tool into the cutting area, and a second brake mechanism adapted to stop the rotation of the cutting tool.

30. The machine of claim 27, further comprising an operative structure adapted to couple the cutting tool to the support structure, where the operative structure is selectively movable relative to the support structure to move the cutting tool into the cutting area, and where the control system is adapted to stop movement of the operative structure relative to the support structure upon detection of close proximity by the detection system.

31. The machine of claim 26 further comprising a blade guard and wherein the selected portion of the tool is the blade guard.

32. The machine of claim 30 wherein the machine is an up-cut saw and wherein the control system is adapted to stop upward movement of the operative structure.

33. A machine for cutting a workpiece comprising:

a. a tool having a motor to drive a blade for cutting the workpiece; and,

b. a detection system that includes a portion of the tool other than blade adapted to function as a capacitive probe to search for a preselected capacitance level and when the preselected capacitance level is located the detection system outputs a detecting signal.

34. The machine of claim 33 further comprising a control system adapted to cause a predetermined action to take place upon receipt of the detecting signal.

35. A method of detecting close proximity to a tool having a motor to drive a blade comprising:

a. providing a capacitive probe on a portion of the tool other than the blade; and,

b. sensing whether a user is in close proximity to the probe by detecting a capacitance of the user.

36. A method of providing a safety system on a power tool having a motor to drive a blade, comprising:

a. providing a capacitive probe on a portion of the tool other than the blade, wherein the probe detects the presence of a portion of a user's body when that portion is in close proximity to the portion of the tool; and,

b. providing a control system to receive a signal from the capacitive probe indicative of the presence of a portion of a user's body in close proximity to the portion of the tool, wherein the control system is adapted to selectively provide a warning signal or a stopping motion of the blade.